EXPERIMENT – 3

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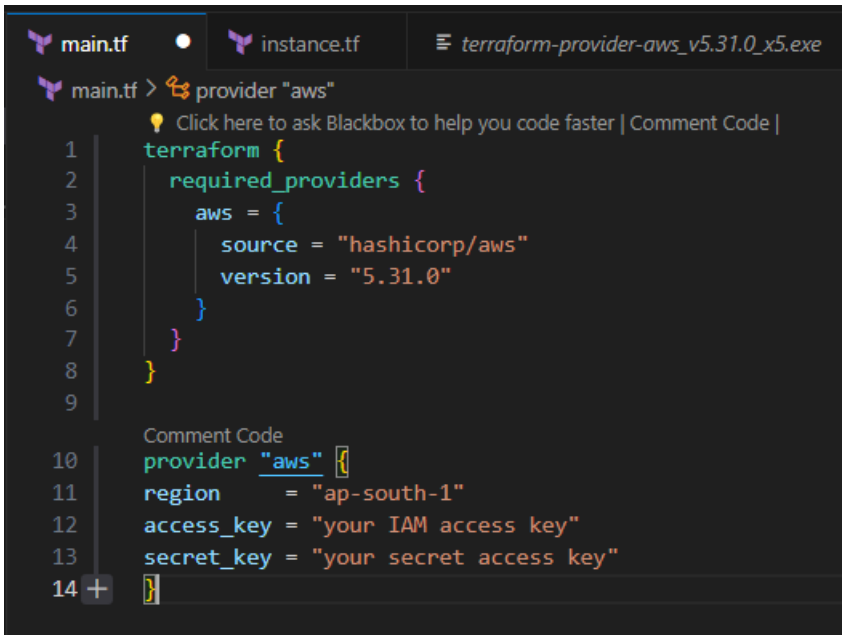
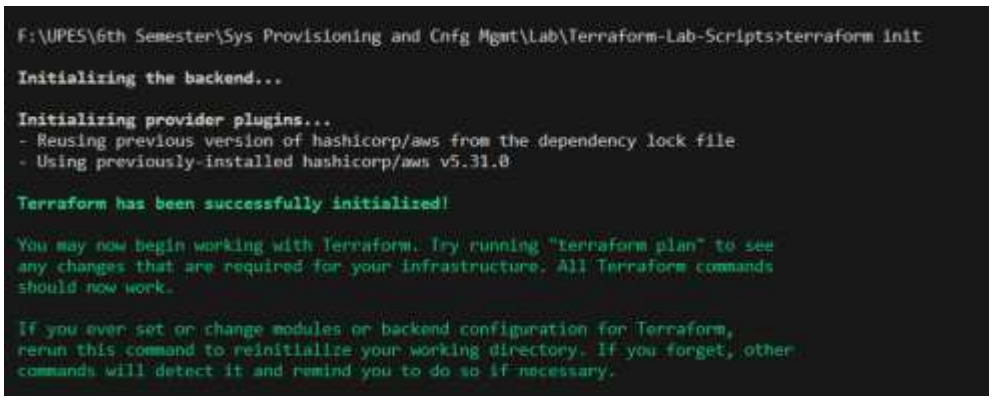
Batch – 2 [DevOps Non-Hons]
SAP ID- 500092140
Subject – System Provisioning and Configuration Management Lab

Aim: Provisioning an EC2 Instance on AWS.

1] Create a Terraform Configuration File (main.tf)



2] Initialize Terraform.



3] Validate the Script.

```
F:\UPES\6th Semester\Sys Provisioning and Cnfg Mgmt\Lab\Terraform-Lab-Scripts>terraform validate
Success! The configuration is valid.
```

4] Create a Terraform Configuration File for EC2 instance (instance.tf).

vpc.tf | instance.tf | main.tf

instance.tf

```
resource "aws_instance" "My-instance" {
    instance_type = "t2.micro"
    ami = "ami-03f4878755434977f"
    count = 1
    tags = {
      Name = "UPES-EC2-Instnace"
    }
}
```

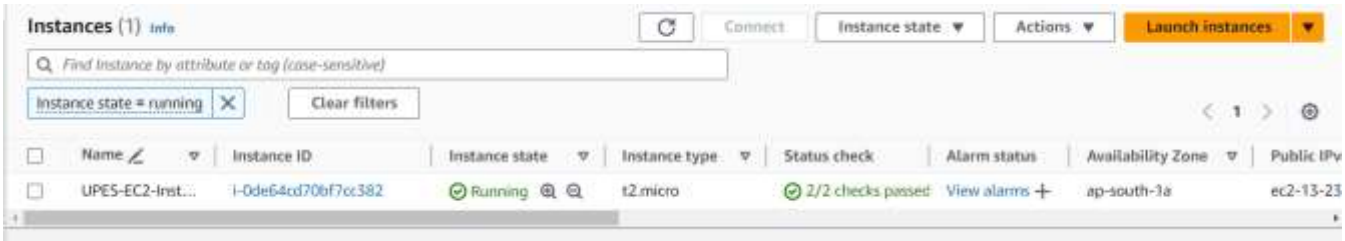
5] Review Plan using Command “Terraform plan”

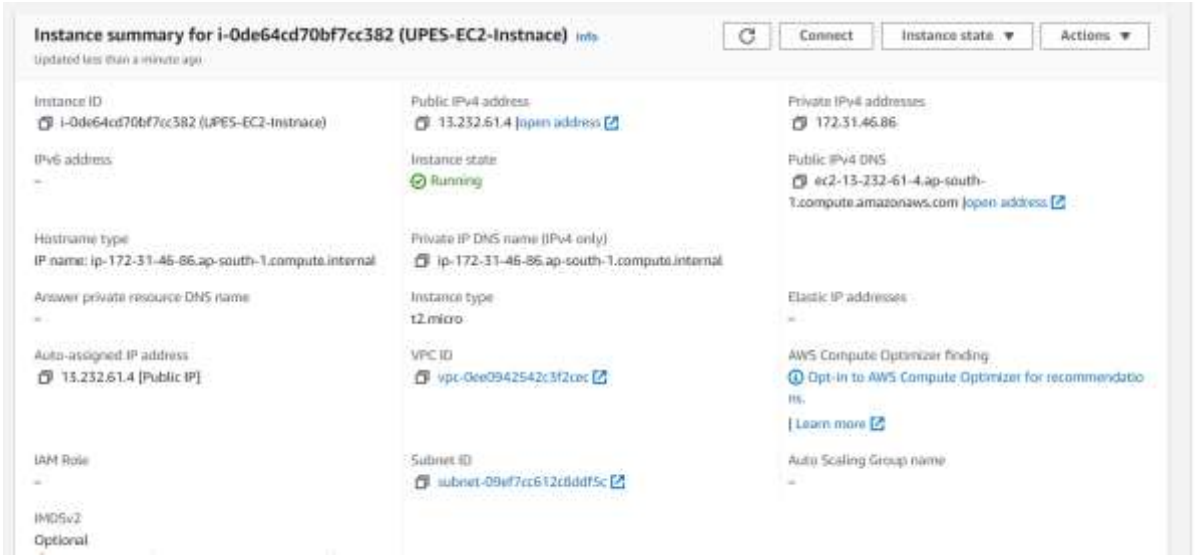
```
F:\UPES\6th Semester\Sys Provisioning and Cnfg Mgmt\Lab\Terraform-Lab-Scripts>terraform plan

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
  + create

Terraform will perform the following actions:

  # aws_instance.My-instance[0] will be created
  + resource "aws_instance" "My-instance" {
      + ami                                  = "ami-03f4878755434977f"
      + arn                                  = (known after apply)
      + associate_public_ip_address          = (known after apply)
      + availability_zone                    = (known after apply)
      + cpu_core_count                       = (known after apply)
      + cpu_threads_per_core                 = (known after apply)
      + disable_api_stop                     = (known after apply)
      + disable_api_termination              = (known after apply)
      + ebs_optimized                        = (known after apply)
      + get_password_data                    = false
      + host_id                              = (known after apply)
      + host_resource_group_arn              = (known after apply)
      + iam_instance_profile                 = (known after apply)
      + id                                   = (known after apply)
      + instance_initiated_shutdown_behavior = (known after apply)
      + instance_lifecycle                   = (known after apply)
      + instance_state                       = (known after apply)
      + instance_type                        = "t2.micro"
      + ipv6_address_count                   = (known after apply)
      + ipv6_addresses                       = (known after apply)
      + key_name                             = (known after apply)
      + monitoring                           = (known after apply)
      + outpost_arn                          = (known after apply)
      + password_data                        = (known after apply)
      + placement_group                      = (known after apply)
      + placement_partition_number           = (known after apply)
      + instance_lifecycle                   = (known after apply)
      + instance_state                       = (known after apply)
      + instance_type                        = "t2.micro"
      + ipv6_address_count                   = (known after apply)
      + ipv6_addresses                       = (known after apply)
      + key_name                             = (known after apply)
      + monitoring                           = (known after apply)
      + outpost_arn                          = (known after apply)
      + password_data                        = (known after apply)
      + placement_group                      = (known after apply)
      + placement_partition_number           = (known after apply)
      + primary_network_interface_id         = (known after apply)
      + private_dns                          = (known after apply)
      + private_ip                           = (known after apply)
      + public_dns                           = (known after apply)
      + public_ip                            = (known after apply)
      + secondary_private_ips                = (known after apply)
      + security_groups                      = (known after apply)
      + source_dest_check                    = true
      + spot_instance_request_id             = (known after apply)
      + subnet_id                            = (known after apply)
      + tags                                 = {
          + "Name" = "UPES-EC2-Instnace"
        }
      + tags_all                             = {
          + "Name" = "UPES-EC2-Instnace"
        }
      + tenancy                              = (known after apply)
      + user_data                            = (known after apply)
      + user_data_base64                     = (known after apply)
      + user_data_replace_on_change          = false
      + vpc_security_group_ids               = (known after apply)
    }

Plan: 1 to add, 0 to change, 0 to destroy.

Note: You didn't use the -out option to save this plan, so Terraform can't guarantee to take exactly these actions if you run "terraform apply" now.
```

6] Apply it using command “Terraform apply”

```
F:\UPES\6th Semester\Sys Provisioning and Cnfg Mgmt\Lab\Terraform-Lab-Scripts>terraform apply

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
  + create

Terraform will perform the following actions:

  # aws_instance.My-instance[0] will be created
  + resource "aws_instance" "My-instance" {
      + ami                                  = "ami-03f4878755434977f"
      + arn                                  = (known after apply)
      + associate_public_ip_address          = (known after apply)
      + availability_zone                    = (known after apply)
      + cpu_core_count                       = (known after apply)
      + cpu_threads_per_core                 = (known after apply)
      + disable_api_stop                     = (known after apply)
      + disable_api_termination              = (known after apply)
      + ebs_optimized                        = (known after apply)
      + get_password_data                    = false
      + host_id                              = (known after apply)
      + host_resource_group_arn              = (known after apply)
      + iam_instance_profile                 = (known after apply)
      + id                                   = (known after apply)
      + instance_initiated_shutdown_behavior = (known after apply)
      + instance_lifecycle                   = (known after apply)
      + instance_state                       = (known after apply)
      + instance_type                        = "t2.micro"
      + ipv6_address_count                   = (known after apply)
      + ipv6_addresses                       = (known after apply)
      + key_name                             = (known after apply)
      + monitoring                           = (known after apply)
      + outpost_arn                          = (known after apply)
      + password_data                        = (known after apply)
      + placement_group                      = (known after apply)
      + placement_partition_number           = (known after apply)
      + primary_network_interface_id         = (known after apply)
      + private_dns                          = (known after apply)
      + private_ip                           = (known after apply)
      + subnet_id                            = (known after apply)
      + tags                                 = {
          + "Name" = "UPES-EC2-Instnace"
        }
      + tags_all                             = {
          + "Name" = "UPES-EC2-Instnace"
        }
      + tenancy                              = (known after apply)
      + user_data                            = (known after apply)
      + user_data_base64                     = (known after apply)
      + user_data_replace_on_change          = false
      + vpc_security_group_ids               = (known after apply)
    }

Plan: 1 to add, 0 to change, 0 to destroy.

Do you want to perform these actions?
  Terraform will perform the actions described above.
  Only 'yes' will be accepted to approve.

  Enter a value: yes

aws_instance.My-instance[0]: Creating...
aws_instance.My-instance[0]: Still creating... [10s elapsed]
aws_instance.My-instance[0]: Still creating... [20s elapsed]
aws_instance.My-instance[0]: Still creating... [30s elapsed]
aws_instance.My-instance[0]: Creation complete after 33s [id=i-0de64cd70bf7cc382]

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.
```

7] Verify Resources on AWS Management Console.





8] Cleanup Resources using command “Terraform destroy”

```
F:\UPES\6th Semester\Sys Provisioning and Cnfg Mgmt\Lab\Terraform-Lab-Scripts>terraform destroy
aws_instance.My-instance[0]: Refreshing state... [id=i-0de64cd70bf7cc382]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
  - destroy

Terraform will perform the following actions:

  # aws_instance.My-instance[0] will be destroyed
  - resource "aws_instance" "My-instance" {
      - ami                                  = "ami-03f48787554349774" -> null
      - arn                                  = "arn:aws:ec2:ap-south-1:394464388823:instance/i-0de64cd70bf7cc382" -> null
      - associate_public_ip_address          = true -> null
      - availability_zone                    = "ap-south-1a" -> null
      - cpu_core_count                       = 1 -> null
      - cpu_threads_per_core                 = 1 -> null
      - disable_api_stop                     = false -> null
      - disable_api_termination              = false -> null
      - ebs_optimized                        = false -> null
      - get_password_data                    = false -> null
      - hibernation                          = false -> null
      - id                                   = "i-0de64cd70bf7cc382" -> null
      - instance_initiated_shutdown_behavior = "stop" -> null
      - instance_state                       = "running" -> null
      - instance_type                        = "t2.micro" -> null
      - ipv6_address_count                   = 0 -> null
      - ipv6_addresses                       = [] -> null
      - monitoring                           = false -> null
```

```
Plan: 0 to add, 0 to change, 1 to destroy.

Do you really want to destroy all resources?
  Terraform will destroy all your managed infrastructure, as shown above.
  There is no undo. Only 'yes' will be accepted to confirm.

  Enter a value: yes

aws_instance.My-instance[0]: Destroying... [id=i-0de64cd70bf7cc382]
aws_instance.My-instance[0]: Still destroying... [id=i-0de64cd70bf7cc382, 10s elapsed]
aws_instance.My-instance[0]: Still destroying... [id=i-0de64cd70bf7cc382, 20s elapsed]
aws_instance.My-instance[0]: Still destroying... [id=i-0de64cd70bf7cc382, 30s elapsed]
aws_instance.My-instance[0]: Destruction complete after 30s

Destroy complete! Resources: 1 destroyed.
```